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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/607,225	06/30/2000	William C. Hunt	22977	8603

22267 7590 05/20/2005

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EXAMINER

BHAT, NINA NMN

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/607,225

Applicant(s)

HUNT ET AL.

Examiner

N. Bhat

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/1/05 and 2/10/05
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10,11 and 19-22 is/are allowed.
- 6) ☒ Claim(s) 1-9 and 12-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. Applicant's arguments have been fully and carefully considered. Claim 10-11 and 19-22 are free of the prior art.
2. Claims 1-9 and 12-18 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for controlling the apparatus using float valves and eductors does not reasonably provide enablement for what is encompassed by hydrologic controls. The recitation of hydrologic controls for hydrologically controlling the flow rate of the first and second reactants. In the specification applicant teaches hydrologic controls and hydrologically controlling, but does not teach what type of control means or what is actually meant by hydrologically. Applicant recites using float valves and an eductor for moving the reactants and has argued that the references used by the examiner in the last office do not teach hydrological controls. In the specification, applicant teaches using only eductors and float valves, hydrologic controls read on elements which have neither been contemplated nor disclosed. The specification does not adequately teach what is meant by hydrological controls and how it would differ from any other type of controls or used in the reactor, generator or any piping system.
3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-9 and 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yates in combination with Collier.

Yates discloses the invention substantially as claimed. Yates teaches a feed system for intermixing gaseous chlorine with a supply of water, the apparatus includes a housing which includes a chamber which receives a first reactant and a second reactant, which specifically includes a flow of water and a flow of gaseous chlorine, the chamber causes reaction and/or provides gas-liquid contact to provide a water and chlorine stream which can then be subsequently used. There are means for controlling the amount of water and chlorine into the chamber. The valving used to control or regulate the flow streams include pivotally mounted to the float operated valves. [Note the claims 1-2, and Column 9, lines 19-44 and Figure 6]

However, Yates does not specifically teach applicant's diluent inlet and diluent chamber and eductor.

Scoville teaches an apparatus which mixes a chlorine gas and sodium hydroxide to form a sodium hypochlorite solution which is then mixed or diluted with a saturated brine, the elements of the apparatus include a chamber or reactor which includes inlets

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for a first reactant, an inlet for a second reactant, and means for introducing a diluent which in this case a brine solution. The pumps and valves for transport of the saturated salt brine and soft water, piping, means for intermixing chlorine gas and sodium hydroxide used float valves and other valve devices which are used to regulate the system. [Note Figure 1, and column 2, lines 56-68-column 3, lines 1-42]

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide an apparatus which includes a chamber or reactor to which a first and second reactor inlets, which is controlled for controlling the flow of the first and second reactants, this is notoriously well known and all reactors include means to control feed flow rates into the reactor, applicant has argued that the control is by hydrologic controls. Both Yates and Scoville teach using float valves, controls in moving the fluids into the reactor/chamber, within the reactor/chamber and mixing to produce a mixed stream which is then outputted from the reactor all of these streams are controlled within the system and although not specifically recited would meet applicant's function of hydrologically controlling the first and second reactants into the chamber. With respect to applicant's specific recitation of an eductor connected to the diluent inlet and reaction chamber, Scoville teaches a chamber which functions equivalently to a diluent chamber which mixes water with the chlorine and sodium hydroxide solution. Scoville teaches moving these fluids into and out of the chamber to use specifically and eductor to supply and move the fluids into and out of the respective chambers would have been obvious to one having ordinary skill in the art at the time the invention was made. With respect to using specific control means such as needle

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valves, for controlling a system using float valves because both Scoville and Yates teach using float valves in controlling the flow of fluids within the apparatus and the use of specifically a needle valve would have been an obvious expedient absent criticality in showing. It is maintained that Yates in combination Scoville fairly suggests and teaches applicant's apparatus and method as claimed.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Collier teaches an automated chlorine generator. Charles et al. teach a process for producing chlorine dioxide. Hilbig teach an electrolytic pool chlorinator. Sanderson teaches an apparatus and method for producing chlorine dioxide.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to N. Bhat whose telephone number is 571-272-1397. The examiner can normally be reached on Monday-Friday, 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


NINA BHAT
PRIMARY EXAMINER
GROUP 1700